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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,203	09/28/2005	Takehiko Ishiwata	034170.002	4547

7590 12/27/2006
Glenn J Perry
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Washington, DC 20036

EXAMINER

MILLIKIN, ANDREW R

ART UNIT	PAPER NUMBER
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2892

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/27/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/528,203		ISHIWATA ET AL.	
	Examiner		Art Unit	
	Andrew Millikin		2892	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 9-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims are directed to a music sorting method and a program for sorting music. Neither claim recites a real-world, tangible result. Sorting, obtaining, selecting, and judging do not result in the transformation of an article or physical object to a different state or thing, nor do they produce a tangible result; as a result, the claims are non-statutory.

In addition, claim 10 is directed to a functional descriptive material (a computer program). Functional descriptive material is nonstatutory when claimed as descriptive material per se. When it is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium, and as a result, will be statutory in most cases since the use of technology permits the function of the descriptive material to be realized.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2892

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by document U as cited in the attached PTO-892 form.

Claims 1, 9, & 10: Document U teaches a music sorting method for sorting music (see abstract), comprising: obtaining a plurality of candidate genres which are genres to which said music possibly belongs (Figure 5) and selecting a sorting parameter type which is a type of a parameter used for judging the genre to which said music belongs among a plurality of types of parameters which indicate characteristics of music based on said plurality of candidate genres; and judging either one of said plurality of candidate genres to which said music belongs based on a value of said sorting parameter type of said music (see section 3, Feature Extraction and section 5.6, Genre Classification Results).

Claims 9, 10: Document U teaches incorporating the method of Claim 1 into software (see section 1, Introduction).

Claim 2: Document U teaches a music sorting method as set forth in Claim 1, further comprising determining said sorting parameter types in advance per combination of a plurality of genres, and using said sorting parameter type corresponding to the combination of said plurality of candidate genres in order to determine genre (see section 5.6, Genre Classification Results).

Claim 3: Document U teaches a music sorting method as set forth in Claim 1, further comprising determining a typical value, per genre, which is a value of said parameter most typical to the genre per said plurality of parameters (see Figures 6-8);

and calculating the value of said sorting parameter type in said music (see section 3); obtaining the typical value of said sorting parameter type of each of said plurality of candidate genres (Figures 6-8); and judging the genre to which said music belongs based on a difference between the calculated value of said sorting parameter type and said obtained typical value (see section 5.6).

Claim 6: Document U teaches the music sorting method as set forth in Claim 1, further comprising determining a typical value which is a value of said parameter most typical to the genre per said plurality of parameters, and obtaining the typical value per said plurality of parameter corresponding to each of said plurality of genres and selecting a parameter whose typical value disperses most among said plurality of genres as said sorting parameter type (see section 5.6).

Claim 7: Document U teaches the music sorting method as set forth in Claim 1, further comprising calculating a value of said sorting parameter type in said music per plurality of frequency bands which are different from each other and sorts said music based on the value of said sorting parameter type per plurality of said frequency bands (see section 3.1, Tonal Histograms).

Claim 8: Document U teaches a music sorting method as set forth in Claim 1, further comprising determining, per said genre, a range of said parameter that is possibly taken by a music that belongs to the genre per plurality of said parameters, and judging the genre to which said music belongs based on the calculated value of said sorting parameter type and the range of said sorting parameter type stored in said range storing section per genre (see section 5.6).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over document U.

Document U teaches the music sorting method as set forth in Claim 3, further comprising more than two types of said sorting parameter types (see section 3) and a weight coefficient indicating weight among said more than two types of sorting parameter types per combination of a plurality of genres (see section 2), and calculating each value of more than two types of parameters which are said sorting parameter

types per said plurality of genres (see section 5.6), but does not explicitly teach weighting and averaging the differences of the calculated value and said typical value in accordance to the weight coefficient stored in the sorting parameter type storing section and judges the genre to which said music belongs based on the result of the weighted mean.

Document U does, however, teach weighting the parameters (section 2) and that averaging the difference between actual values and measured values is a good method of determining how close of a genre match has been made (see "For each genre G, we can compute the X^2 metric" in section 5.6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have weighted and averaged the differences of the calculated value and said typical value in accordance to the weight coefficient and to have judged the genre to which said music belongs based on the result of the weighted mean in order to have determined how close of a genre match had been made.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over document U in view of Dwek (U.S. Patent No. 6,248,946, hereafter '946).

Document U teaches the music sorting method as set forth in Claim 1, but does not teach sorting said plurality of genres into a hierarchy so that said plurality of genres in the lower hierarchy correspond to each of said plurality of genres in the upper hierarchy; nor does it teach obtaining said plurality of genres in the lower hierarchy corresponding to the genre in the upper hierarchy or, when said genre judging section

has judged said genre in the upper hierarchy, selecting said sorting parameter type based on said plurality of genres in the lower hierarchy; and judging again the genre in the lower hierarchy to which said music belongs based on said sorting parameter type selected by said parameter selecting section.

'946 teaches that genres can be split into subgenres (column 7, lines 32-43) to classify music more specifically (column 7, lines 44-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method of Document U to not only determine the genres disclosed in Document U (such as Classical, Electronic, Folk, etc.), but to have used the same method to have determined further subgenres in order to have classified music more specifically.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Millikin whose telephone number is 571-270-1265. The examiner can normally be reached on M-R 6:30-4 and 6:30-3 Alternating Fridays (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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SUPERVISORY PATENT EXAMINER